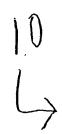
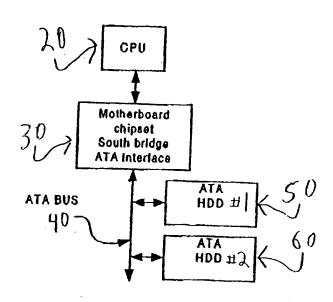
Title: "Method and Apparatus For Double Data Rate Serial ATA PHY interface" Inventors: Ook KIM et al.

Express Mail Label No.: EV 099150825 US

Atty. Docket No.: 59472-8025.US01 [Sheet 1 of 25]





FIGUREI (PRIOR ART)

Atty. Docket No.: 59472-8025.US01 [Sheet 2 of 25]

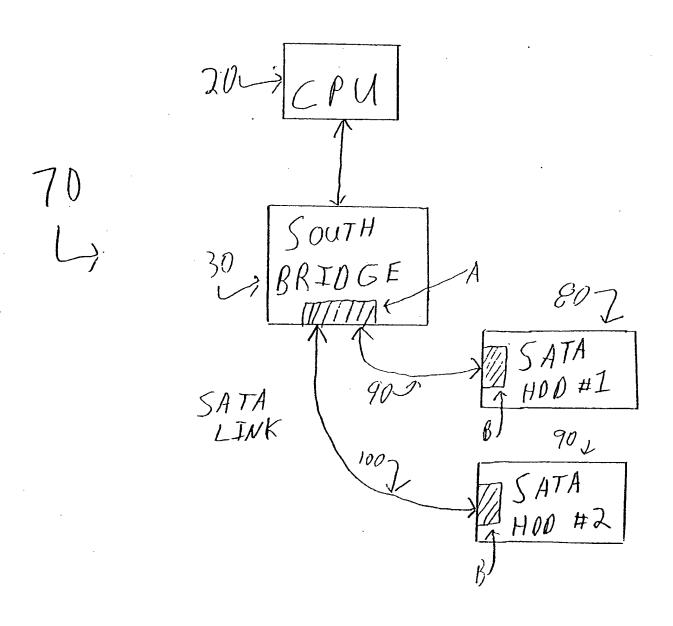
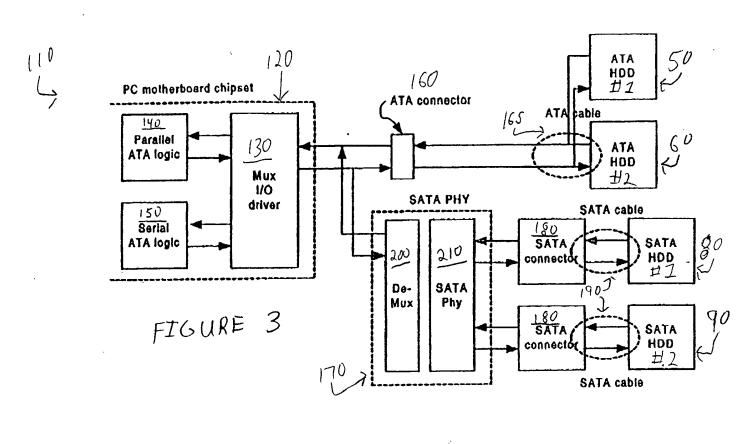
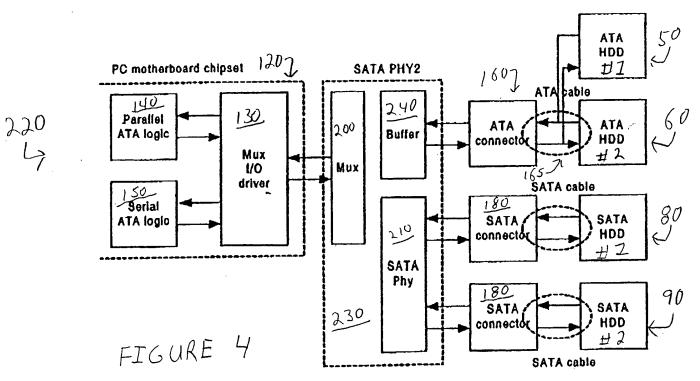


FIGURE 2 SATA LINKED SYSTEM (PRIOR ART) Title: "Method and Apparatus For Double Data Rate Serial ATA PHY Interface" Inventors: Ook KIM et al. Express Mail Label No.: EV 099150825 US Atty. Docket No.: 59472-8025.US01 [Sheet 3 of 25]





Title: "Method and Apparatus For Double Data Rate Serial ATA PHY Interface" Inventors: Ook KIM et al. Express Mail Label No.: EV 099150825 US Atty. Docket No.: 59472-8025.US01 [Sheet 4 of 25]

2 50

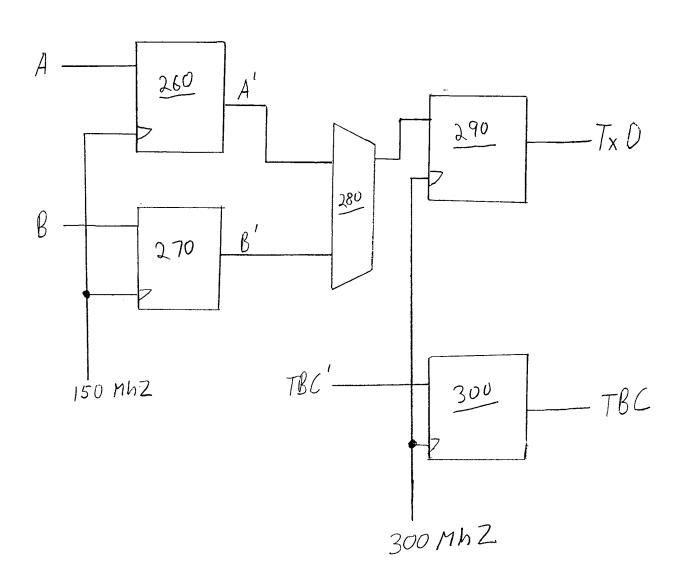


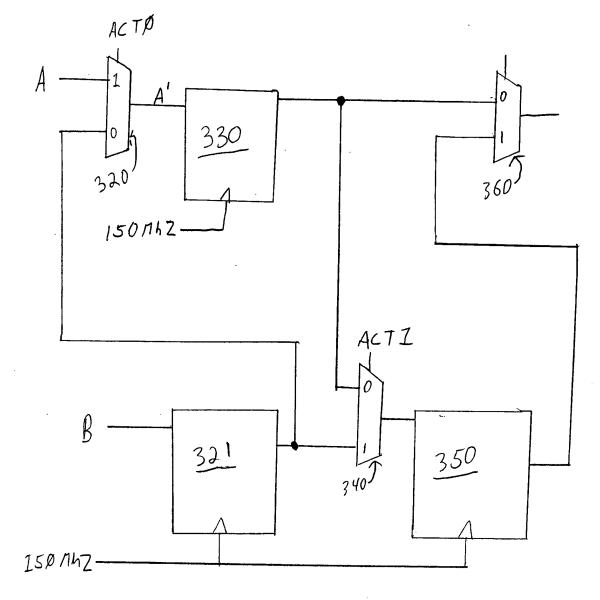
FIGURE 5A

Title: "Method and Apparatus For Double Data Rate Serial ATA PHY Interface" Inventors: Ook KIM et al.

Express Mail Label No.: EV 099150825 US

Atty. Docket No.: 59472-8025.US01 [Sheet 5 of 25]





Title: "Method and Apparatus For Double Data Rate Serial ATA PHY Interface" Inventors: Ook KIM et al. Express Mail Label No.: EV 099150825 US Atty. Docket No.: 59472-8025.US01 [Sheet 6 of 25]

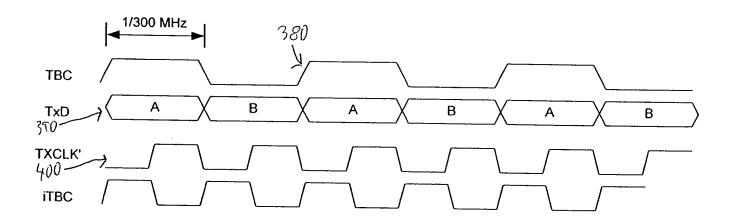


FIGURE 5C

Title: "Method and Apparatus For Double Data Rate Serial ATA PHY Interface" Inventors: Ook KIM et al.

Express Mail Label No.: EV 099150825 US

Atty. Docket No.: 59472-8025.US01 [Sheet 7 of 25]

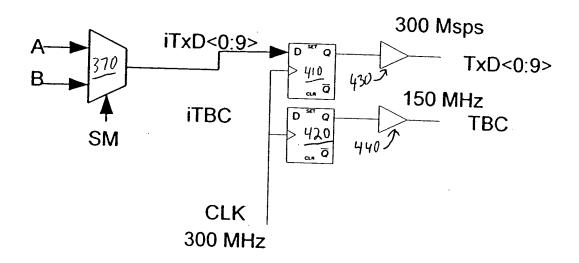


FIGURE 6

Title: "Method and Apparatus For Double Data Rate Serial ATA PHY Interface" Inventors: Ook KIM et al. Express Mail Label No.: EV 099150825 US Atty. Docket No.: 59472-8025.US01 [Sheet 8 of 25]

170

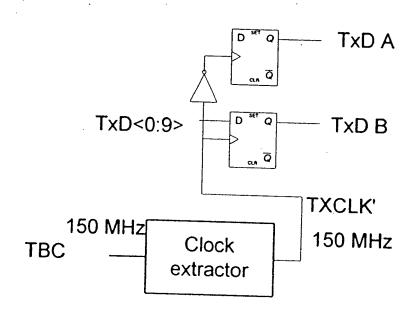


FIGURE 7

Title: "Method and Apparatus For Double Data Rate Serial

ATA PHY Interface" Inventors: Ook KIM et al. Express Mail Label No.: EV 099150825 US

Atty. Docket No.: 59472-8025.US01 [Sheet 9 of 25]

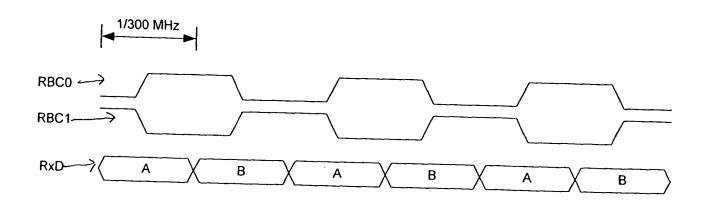


FIGURE 8

Atty. Docket No.: 59472-8025.US01 [Sheet 10 of 25]

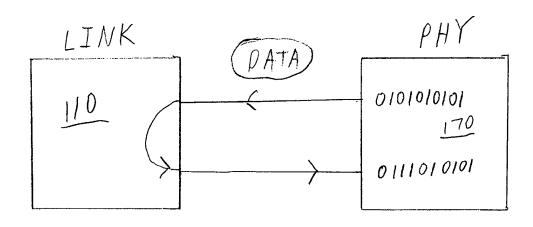


FIGURE 9A

Atty. Docket No.: 59472-8025.US01 [Sheet 11 of 25]

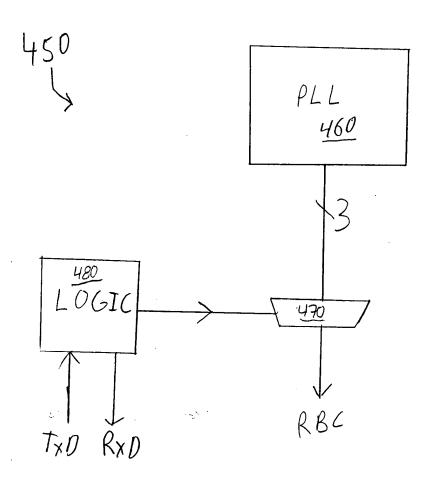
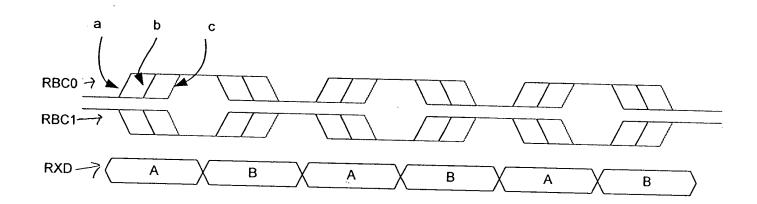
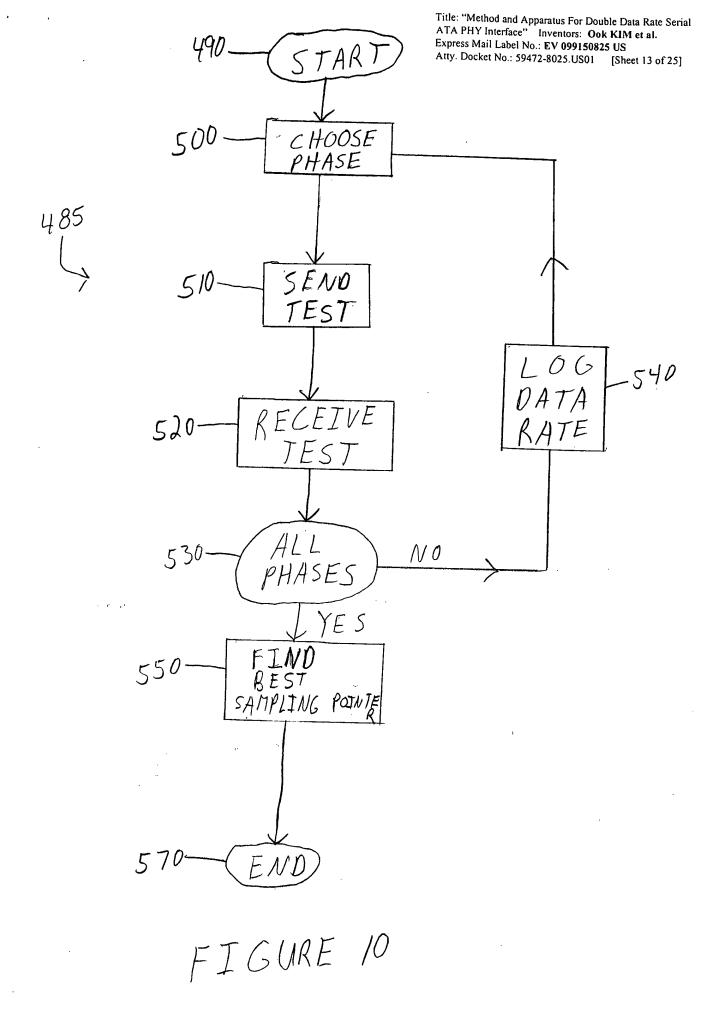


FIGURE 9B

Atty. Docket No.: 59472-8025.US01 [Sheet 12 of 25]



. FIGURE 9C



Atty. Docket No.: 59472-8025.US01 [Sheet 14 of 25]

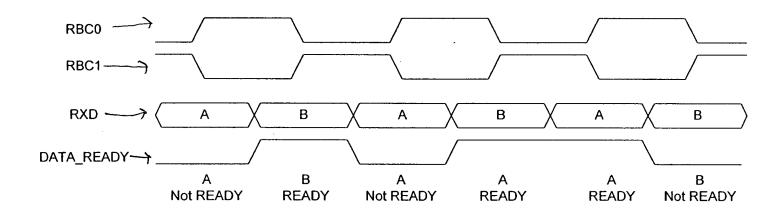


FIGURE 11

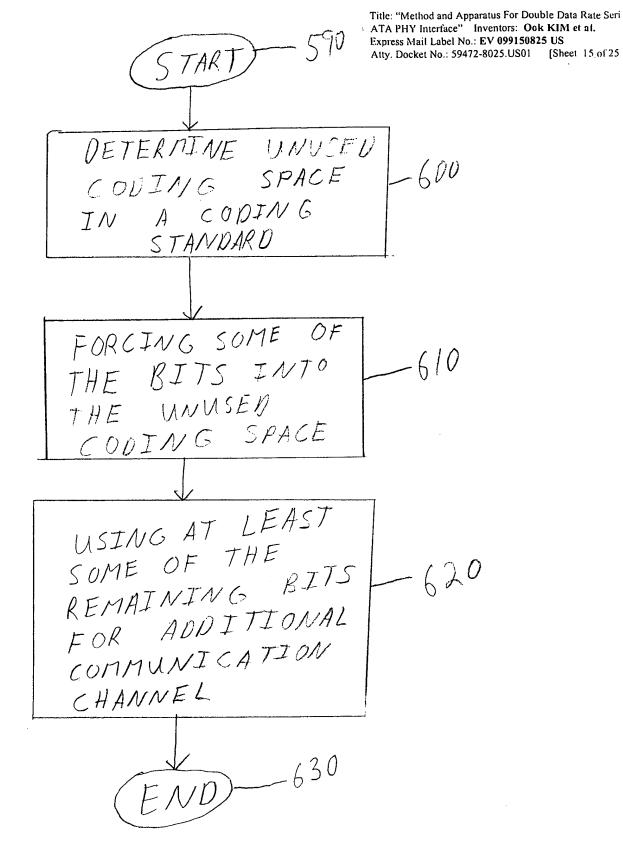


FIGURE 12

Atty. Docket No.: 59472-8025.US01 [Sheet 16 of 25]

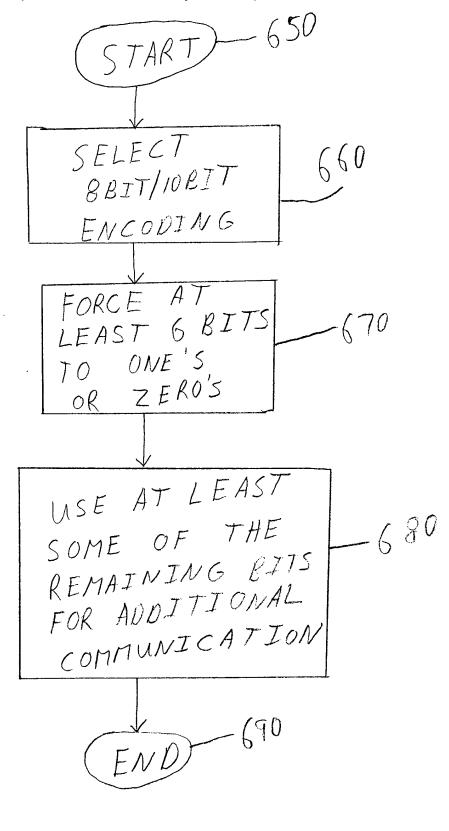


FIGURE 13A

Atty. Docket No.: 59472-8025.US01 [Sheet 17 of 25]

$$700 \longrightarrow 1111111ABCD$$

$$0$$

$$0$$

$$0$$

$$0$$

$$710 \longrightarrow \emptyset\emptyset\emptyset\emptyset\emptyset\emptyset ABCD$$

FIGURE 13B

Title: "Method and Apparatus For Double Data Rate Serial ATA PHY Interface" Inventors: Ook KIM et al. Express Mail Label No.: EV 099150825 US
Atty. Docket No.: 59472-8025.US01 [Sheet 18 of 25]

720

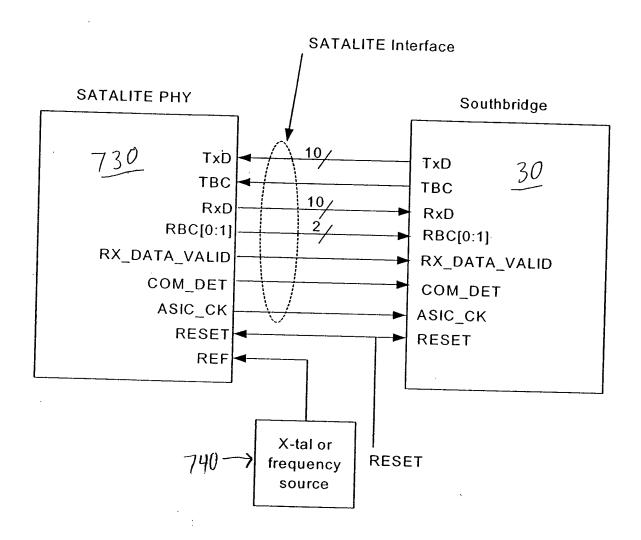


FIGURE 14

Title: "Method and Apparatus For Double Data Rate Serial ATA PHY Interface" Inventors: Ook KIM et al.

Express Mail Label No.: EV 099150825 US
Atty. Docket No.: 59472-8025.US01 [Sheet 19 of 25]

750]

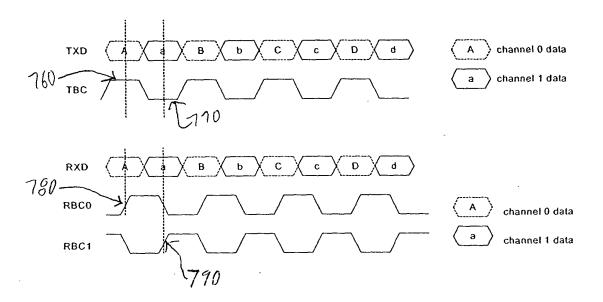


FIGURE 15

Title: "Method and Apparatus For Double Data Rate Serial ATA PHY Interface" Inventors: Ook KIM et al.

Express Mail Label No.: EV 099150825 US

Atty. Docket No.: 59472-8025.US01 [Sheet 20 of 25]

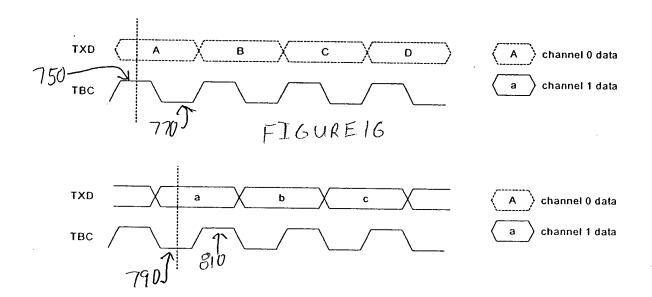
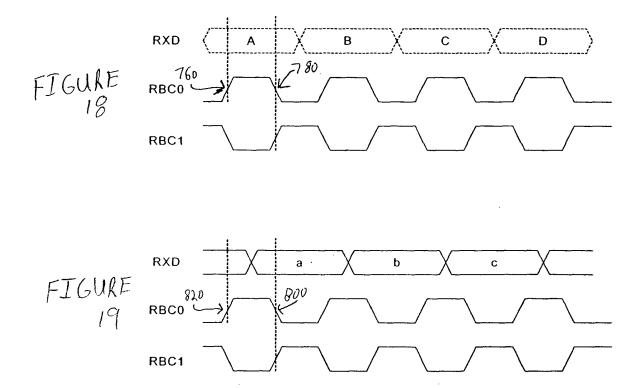
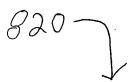


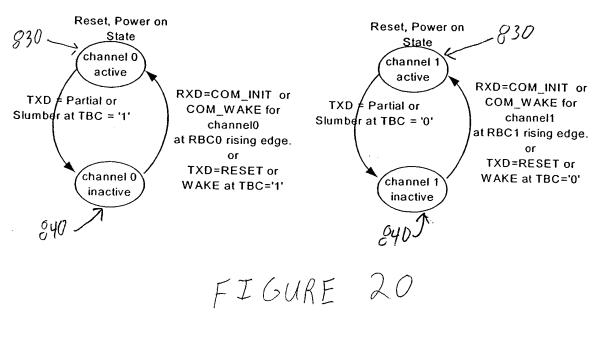
FIGURE 17

Atty. Docket No.: 59472-8025.US01 [Sheet 21 of 25]



Atty. Docket No.: 59472-8025.US01 [Sheet 22 of 25]





730

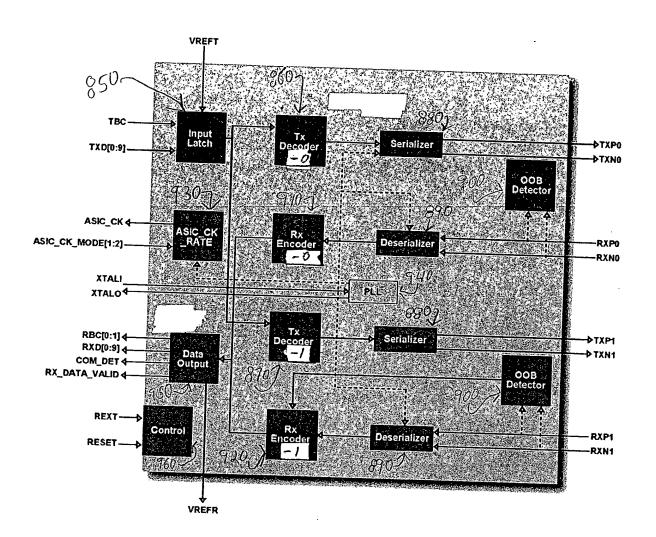
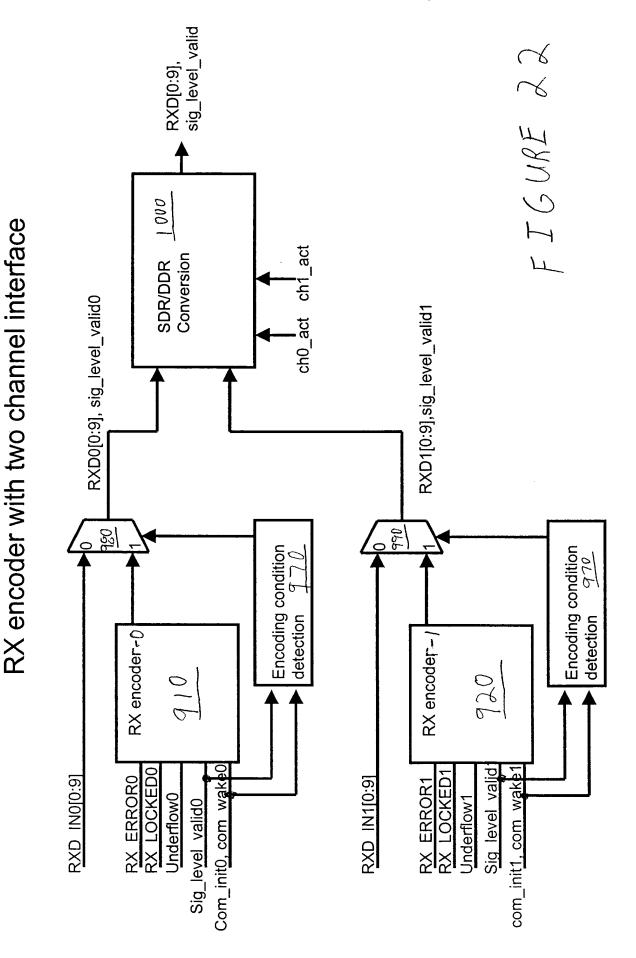


FIGURE 21

Atty. Docket No.: 59472-8025.US01 [Sheet 24 of 25]



Express Mail Label No.: EV 099150825 US Atty. Docket No.: 59472-8025.US01 [Sheet 25 of 25] Partial, slumber, etc.. FIGURE const 111111 or 000000? 10907 Coding table Slumber0 Slumber1 TX_EN1 TX_EN0 TXD0[0:9] - TXD1[0:9] Partial0 Partial1 TXD[0:5] TX decoder-1 TX decoder-0 FIGURE 098 870 238 0001 Q Q 010 Ω 90^o delay 030 TXD[0:9]

Title: "Method and Apparatus For Double Data Rate Serial ATA PHY Interface" Inventors: Ook KIM et al.

TX decoder with two channel interface